

# ABSTRACT OF THE DISCLOSURE

A plasma processing apparatus includes a vacuum chamber that accommodates an object to be processed, and provides a plasma process to the object in a vacuum or reduced pressure environment, a dielectric for transmitting microwaves to the vacuum chamber and for maintaining the vacuum or reduced environment of the vacuum chamber, a plate that has slots for guiding the microwaves to the dielectric, and a temperature control mechanism that has a cooling channel between the plate and the dielectric, and controls temperature of the dielectric.